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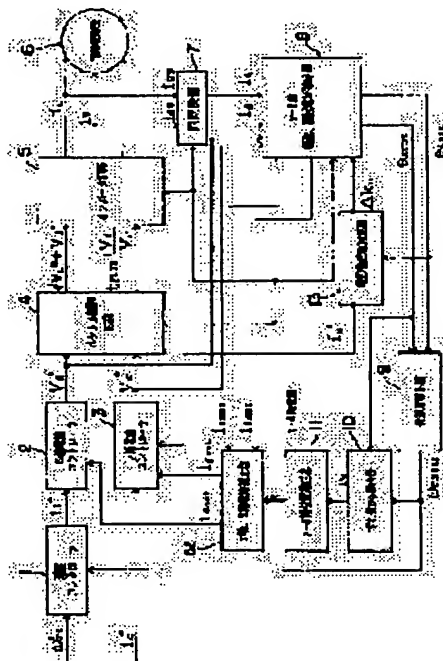
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(54) IDENTIFICATION OF CONSTANT FOR SYNCHRONOUS MOTOR

(57)Abstract:

PROBLEM TO BE SOLVED: To provide with high accuracy a method for identifying the induction voltage constant and d-axis inductance of a synchronous motor rapidly.

SOLUTION: An α - β space coordinate system is set, where an α -axis is the U-phase of a stator of a synchronous motor 6, and a β -axis is an axis formed by rotating the α axis by an electrical angle 90° in the forward direction. In the α - β spatial coordinate system, there is supposed a d-q axis which is rotated at a synchronous motor with a rotating speed ω_{rm} , where a d-axis is a true magnetic axis of the synchronous motor 6 and a q-axis is an axis advanced by 90° from the d-axis, and a γ - δ axis which is rotated at a command synchronous motor rotating speed ω_{rm}^* , where a γ -axis is a specified magnetic axis of the synchronous motor 6 and a δ -axis is an axis advanced by 90° from the γ -axis. Based on an induced voltage e_{δ} of the synchronous motor generated by a δ -axis current equation, where the inputs are the γ - δ axis current and the δ -axis voltage command value V_{δ}^* and the disturbance is the induced voltage of the synchronous motor, the induced voltage constant is regulated so that an estimated speed value ω_{rmest} added with a correction value, so that an estimated speed value ω_{rmest}' added with no correction value is equal for identifying the induced voltage constant.



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